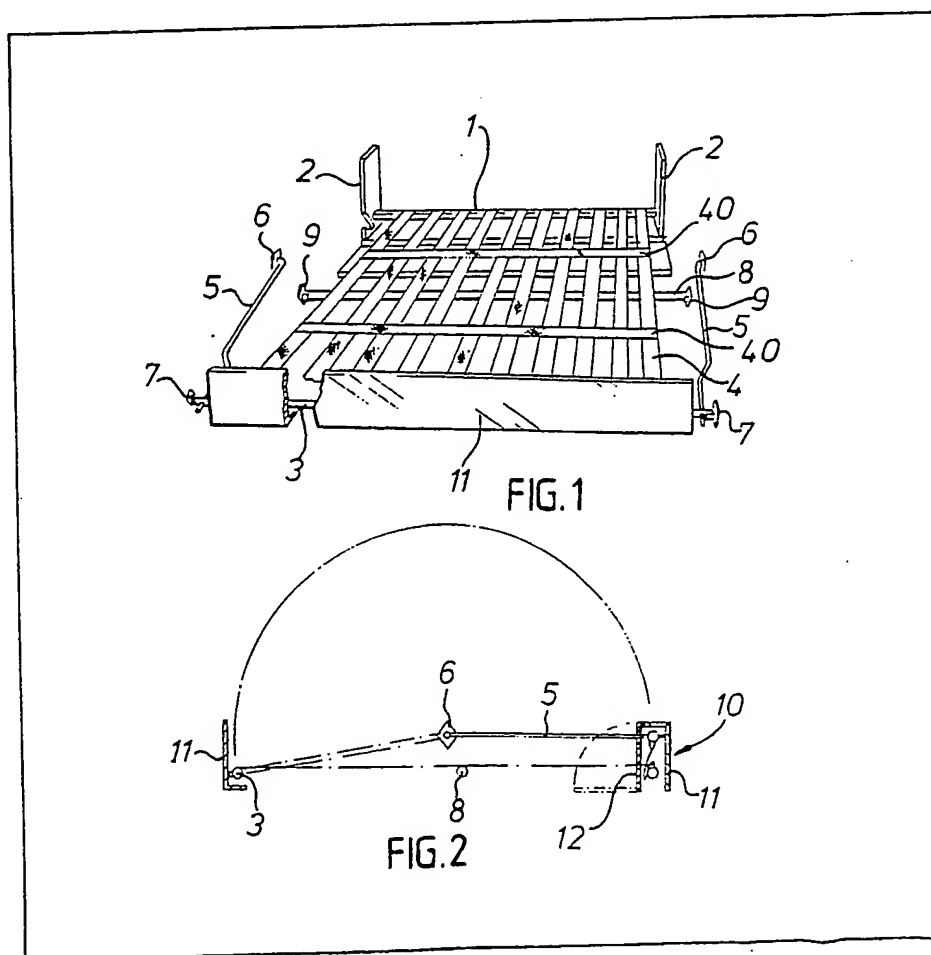


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(54) Collapsible bed

(57) A collapsible bed for use in a caravan or small boat comprises a fixed supporting bar (1) and a movable bar (3) secured to two pivoting arms (5) whose pivots (6) are mounted above the bed surface, when open. The fixed and movable bars (1 and 3) are connected together by elastic webs (4) which are held in tension when the bed is open and define the upper surface of the bed. The position of the pivots (6) is such as to ensure that the tension in the webs will tend to hold the movable bar (3) in supports (7). The bars and webs fold into a box (10) when not in use. Parts of the box can be defined by components (11) attached to the movable bar, which can thus serve to retain a mattress on the bed, when open.



## SPECIFICATION

## Collapsible bed

5 This invention relates to a collapsible bed suitable for use in caravans and boats.

According to the invention, a collapsible bed comprises a fixed elongate member and a movable elongate member connected thereto by at least one elastic web, defining the upper surface of the bed, the movable member being mounted on an arm pivotally mounted so that the movable member can be moved about the pivot from a position adjacent to the fixed member, wherein the bed is in the collapsed state, into engagement with supports therefore spaced from the fixed member such that the web or webs are held under tension by the supports.

Preferably, two arms are used, one supporting each end of the movable member. A plurality of parallel narrow webs is preferred to a single wide web. An intermediate support, in the form of a removable bar, may be used to support the webs between their ends.

The bed is light in weight and folds down into a small volume, for example into a narrow elongate box. The elastic web or webs not only serve to hold the bed in the open position, but also provide a comfortable base for a mattress.

Reference is made to the drawings, in which:

30 Figure 1 is a perspective view of one embodiment of the invention, in the open position; and  
Figure 2 is a diagrammatic side view illustrating the opening and collapsing of the bed shown in Figure 1.

35 The bed comprises a fixed steel bar or tube 1 held by brackets 2 secured to the side walls of a caravan, adjacent to one end thereof, for example. A movable steel bar or tube 3 is linked to the fixed bar 1 by a plurality of spaced parallel elastic webs 4 secured around each bar. The webs 4 are suitably of the type used in the construction of some lounge chairs and settees as a base for the cushions. Relatively inelastic and inflexible stiffening members 40, e.g. of thin plywood or a plastics material, are fastened across the webs. In addition, some webs formed of inelastic webbing may be provided for extra support.

The movable bar 3 is secured at each end thereof to the free ends of two arms 5 pivotally mounted at their other ends in pivot plates 6 secured to the side walls of the caravan at a distance above the level of the webs 4 when the bed is open. The ends of the movable bar 3 rest, when the bed is in its open position, in channel-like supports 7 fixed to the side wall of the caravan. The position of the pivot plates 6 is such that the webs 4, which are under tension when the bed is open, exert a force on the movable bar 3 which has a downwards component normal to the arms 5. This tends to hold the movable bar 3 in the supports 7, maintaining the bed in the open position.

60 A removable intermediate support bar 8 located in supports 9 on the caravan side walls to prevent excessive sagging of the webs 4 at their centre.

When the bed is not in use, it can be collapsed into a storage box 10 (Figure 2) on the end wall of the caravan. The box is formed by a wooden L-section side member 11, bolted to the movable bar 3, the brackets 2, and the hinged panel 12, which folds down under the bed when the bed is opened. The side member 11 additionally serves to strengthen the bar 3, to improve its appearance, and to prevent sideways movement of a mattress placed on the bed. The fixed bar 1 is located within this box 10 and the movable bar 3 can swing into the box, the loose webs being tucked into the box, which can also house the support bar 8. The seat cushions from the caravan may be placed on the bed together to form the mattress, in conventional manner. A sheet of fabric or plastics may be placed over the webs 4 to provide a continuous bed surface.

80 In an alternative form of bed in accordance with the invention, channel members are provided at each end of the bed to accommodate the end webs 4, when the bed is opened. Additional stiffening members 40 are provided, with slots in the inner-most sides of the channel members to accommodate these stiffening members. The support bar 8 may thus be dispensed with.

Although the bed is conveniently accommodated in a caravan so as to stretch across the width of the caravan, it will be appreciated that any other arrangement may be used, with suitable side supports.

## CLAIMS

1. A collapsible bed comprising a fixed elongate member and a movable elongate member connected thereto by at least one elastic web, defining the upper surface of the bed, the movable member being mounted on an arm pivotally mounted so that the movable member can be moved about the pivot from a position adjacent to the fixed member, wherein the bed is in the collapsed state, into engagement with supports therefore spaced from the fixed member such that the web or webs are held under tension by the supports.

2. A bed according to Claim 1, wherein the movable member is mounted between a pair of arms pivoting about a common axis.

3. A bed according to Claim 1 or 2, wherein the pivot or pivots are positioned above the upper surface of the bed, whereby the tension in the web or webs tends to hold the movable member in engagement with the supports.

4. A bed according to Claim 1, 2 or 3, wherein the fixed member and the movable member are connected together by a plurality of parallel webs.

5. A bed according to any preceding claim, wherein in the collapsed state thereof, the fixed and movable members and the interconnecting web or webs are contained within a box, at least one side of which is attached to the movable member.

6. A collapsible bed, substantially as described herein with reference to the drawings.

7. A caravan or boat provided therein with a collapsible bed according to any preceding claim.